

Fukushima Media Involvement: Lessons Learned and Challenges – 13261

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ABSTRACT

Only days after the Fukushima nuclear reactor disaster on March 11, 2011, the DOE's Pacific Northwest National Laboratory, or PNNL, found itself in a maelstrom of media attention following its announcement of the detection of minute levels of radioactive material originating from the damaged reactors 4,500 miles away. Because PNNL develops state-of-the-art ultra-sensitive radionuclide detection and monitoring systems for national security applications, and has some of the equipment operating on its Richland campus, there was little surprise when one of these sophisticated systems led PNNL to be the first to detect measurable radionuclides in the United States. On Wednesday, March 16, 2011, that system detected miniscule levels of short-lived radioactive xenon, a telltale element derived from either weapons testing or a major reactor disruption. Immediately after the detection was announced, a flurry of inquiries nearly overwhelmed staff as governments, scientific organizations, the general public, and reporters struggled to understand and estimate what impacts this disaster might have on health and environment.

Over the course of about three weeks, PNNL's News & Media Relations staff and its scientists and engineers responded to more than 100 requests for information, and engaged in dozens of personal interviews with international, national, regional, and local media. While many of the interviews and resulting stories were accurate and well done, not all communication went flawlessly. In the midst of chaos and confusion, which are part of any significant crisis, hiccoughs are sure to occur. Addressed here is "the rest of the story."

INTRODUCTION

In the aftermath of the nuclear reactor disaster at Fukushima on March 11, 2011 (Figure 1), PNNL quickly realized that it would be a lightning rod for media attention after publicly announcing that it had detected the radioactive isotope Xe-133 at its Richland, Washington laboratory on Wednesday, March 16. Researchers confirmed that the origin of the element was consistent with a release from the reactors in northern Japan a few days earlier. These minute levels of xenon were the first to be detected in the US.

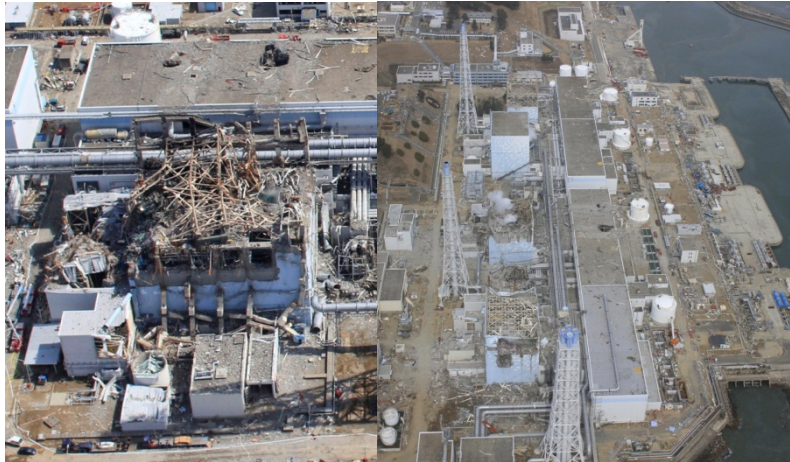


Figure 1. Aerial photos taken days after explosion of the Daiichi nuclear power stations in Okumamachi, Fukushima prefecture in northern Japan.

The media attention was not surprising, however. For decades, the laboratory has been on the forefront of developing radiation detection technologies for organizations like the National Nuclear Security Administration. This has included developing methods and instruments deployed worldwide for detecting ultra-trace levels of radioactive materials to support non-proliferation and treaty verification activities. The lab developed the radiation monitoring systems used by the Comprehensive Test Ban Treaty Organization at 30 stations worldwide to detect evidence of illicit nuclear bomb testing. In addition to providing important, real-time data from the Fukushima reactor releases, further analysis of monitoring data will allow scientists to determine just how sensitive the international monitoring network is to covert bomb tests.

The levels detected by PNNL were extremely low and posed no health hazard. Dose rates were less than one-millionth of the amount a person normally receives in one day from background radiation produced by sources like the sun [1].

In the early aftermath of the catastrophe, the desire for information quickly rose as publics, governments, and reporters struggled to understand and estimate what impacts this disaster might have on health and environment. Over the course of about three weeks, PNNL Media Relations staff and scientists and engineers engaged in more than 100 media inquiries and conducted about 40 interviews with both national and international media. PNNL specialists were called upon to address a variety of topics from radiation detection, fate and transport of radionuclides, and environmental remediation, to inspection and characterization of spent fuels, stabilization and decontamination of reactor sites, and options for remediation and control of contaminated soils, biota, and water in surrounding regions. These discussions involved interviews with magazines such as *Nature*, *Science*, *Scientific American*; newspapers including the *New York Times*, *Seattle Times*, *Portland Oregonian*; broadcast media including

National Public Radio and the BBC; as well as many other news gatherers and organizations.

In addition, PNNL staff fielded inquiries from DOE and various national security clients, other government agencies like the EPA, Washington Department of Health, and regional stakeholders such as Energy Northwest's Columbia Generating Station and representatives from DOE's Hanford Site.

MANAGING THE MESSAGE

Before engaging with media on this sensitive, international event, coordinating communications with the public affairs office at DOE Headquarters (HQ) and the Nuclear Regulatory Commission (NRC) was essential. Knowing that PNNL and other national laboratories would eventually be approached for details and comment, close coordination and adherence to established guidelines was needed. In the end, both DOE and NRC gave PNNL the latitude to respond directly to media calls with a few provisions: 1) only talk based on first-hand knowledge or that which you have personally experienced, 2) avoid addressing hypothetical scenarios or policy issues, and 3) avoid speculating on how events at Fukushima might evolve and how this accident might affect the future of the nuclear industry.

Radio – Follow established guidelines as promised

An early miss-step occurred when a local radio station interviewed two PNNL scientists about issues related to the damaged Daiichi reactors only days after the accident. The discussion went quite well; lab scientists responded properly to probing questions and “almost” stayed within the established guidelines.

Unfortunately, one misstatement was made during the live program about how the conditions at the reactor sites in Japan appeared to be improving and perhaps stabilizing. National news reports were claiming that to be true. However, the agreement with DOE-HQ was for scientists to only speak about things they had personally experienced or knew to be factual. Because they had no first-hand knowledge and were only assuming news reporters were accurate, they should not have commented on conditions in Japan. As it turned out, the news director used a quote from one of the two PNNL scientists in a newscast the *following* morning saying things seemed to be “stabilizing.” By then, however, things had changed dramatically in Japan where conditions were reportedly growing much worse; so the local story was completely incongruent with what was being reported in Japan. The resulting news of the faux pas made its way to DOE-HQ post haste, and was not warmly welcomed. Promises to do better were made and accepted, and the permission to respond to future media inquiries was mercifully extended.

Newspaper – Release of accurate information is essential

In the weeks that followed the disaster, atmospheric radioactive plumes travelling westward and beyond sparked strong public and media interest. Even here in Arizona, the state EPA website [3] provided responses to questions from nervous residents fearing the contamination. Regulators found it necessary to tell citizens they should NOT take potassium iodide tablets to ward off the ill effects of radio iodine (Figure 2). The desire for current, accurate information regarding possible health effects was strong and growing.

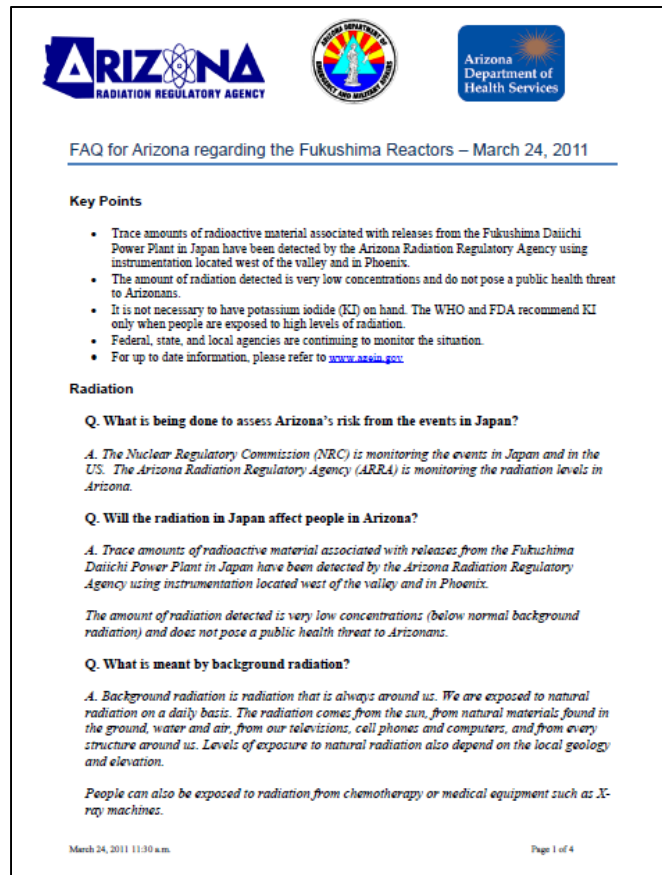


Figure 2. Arizona regulators felt compelled to specifically inform concerned residents not to take potassium iodide tablets, because exposures to radio iodine were so low.

As the hunger for timely information increased, PNNL staff were faced with another media challenge involving a major regional newspaper. A reporter preparing an article insisted on being given access to data recorded by PNNL's sophisticated monitoring technology, demanding that details of all the xenon data be revealed immediately. The reporter stated that because PNNL was a federal government entity it was required to

share the information. However, the data had not yet been peer-reviewed for errors and inaccuracies, a common practice prior to releasing data. In the back of everyone's mind was Pons and Fleishmann's (1989) announcement of "cold fusion" and the embarrassment and disgrace the release of un-vetted data can cause.

The reporter's request did not appear to have anything to do with the data being "health related" because numerous published articles had already confirmed the radioactive materials were less than one-millionth of the amount a person normally receives in one day from background radiation produced by sources like the sun, and that these levels were continuing to diminish daily [1]. For example, USA Today [4] reported that, "Minuscule amounts of radiation from Japan's stricken nuclear plant have reached the west coast but federal and state officials say it poses no health risk." Another story published by Scientific American [5] quoted PNNL nuclear expert Ted Bowyer as saying that "the tiny concentrations of radioactive iodine, cesium, tellurium, xenon and lanthanum (were) far below normal background levels and not a health risk."

Providing inaccurate, un-vetted information to the media could have inadvertently prompted the public to take inappropriate or ill-advised actions—perhaps encouraging Arizona residents to consume potassium iodide tablets, for instance. Nonetheless, the reporter exhibited displeasure with PNNL's refusal to make un-vetted data available by calling us out in an article (Figure 4). The reporter even commented via email, "Imagine the headline: Federal scientists refuse to reveal results of Japan radiation monitoring."

"You'd be hard pressed to know the details if you relied on government agencies for your information."

"Scientists from the Department of Energy's (DOE) Pacific Northwest National Laboratory (PNNL) in Richland shared some of the initial data from ultrasensitive instruments designed to detect fallout from nuclear tests, but have since declined to make other results public."

Figure 4. Newspaper article excerpt indicating how some reporters may consider scientific peer review an unnecessary step or perhaps even a suspicious practice intended to delay or avoid releasing scientific data.

Because many sources had confirmed that the minuscule levels of radiation exposure were not a risk, the refusal to turn over the data immediately was neither a matter of denying

the public access nor depriving citizens of essential health-related information. Rather, it was ensuring that only accurate data were shared. Furthermore, it isn't the responsibility of a federal laboratory like PNNL to collect and make these data available for public health protection. Other federal and state agencies hold that responsibility.

A full review of the data revealed minor errors that were corrected before the data were shared publicly. This experience helped staff recognize that the need for peer review can be a foreign concept to reporters in the popular media who expect information immediately and view any hesitancy with suspicion or worse.

GIVING CREDIT AND COMMITTING TO FUTURE INVOLVEMENT

That is not to say that many encounters with the media were negative. In fact, several staff members received media coverage for their endless support; e.g., travelling to Japan on many occasions to assist in establishing dose assessments; sharing creative ways to clean up contaminated land and water; dealing with failed nuclear systems and fuel; and sharing their hands-on expertise from past dealings with disasters at Chernobyl and Three Mile Island (Figure 5). Some of these experts received special recognition. [6]



Figure 5. PNNL scientist Yasuo Onishi was featured in a Seattle television news story for his strong, unwavering commitment to cleanup and restorative efforts in Japan.

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- [4] USA Today. March 19, 2011. “Testing finds no health threat along West Coast.”
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